BLM LIBRARY
88072151



BIOLOGICAL EVALUATION FOR

BUREAU OF LAND MANAGEMENT AND US FOREST SERVICE

SENSITIVE PLANT SPECIES

ON THE

PROPOSED WORLDCOM NORTHWEST FIBER OPTIC CABLE INSTALLATION

SEATTLE, WASHINGTON TO SALT LAKE CITY, UTAH

Prepared for:

US FOREST SERVICE AND US BUREAU OF LAND MANAGEMENT

Prepared by:

DAVID EVANS AND ASSOCIATES, INC.
415 - 118th Avenue SE
Bellevue, WA 98005-3553

Under Contract to:

WORLDCOM NETWORK SYSTEMS, INC.
Tulsa, Oklahoma

June 1996

QK
86
.P16
D38
1996

#954149814
10880721 51
QK
86
.P16
D38
1996

TABLE OF CONTENTS

1.0 INTRODUCTION 2

2.0 PROPOSED ACTION 2

3.0 ACTION AREA 3

4.0 SENSITIVE SPECIES 3

5.0 IMPACT DETERMINATION 12

6.0 MITIGATION MEASURES 14

7.0 REFERENCES 15

LIST OF TABLES

Table 1: Proposed Route Through Mount Baker-Snoqualmie National Forest 5
Table 2: Proposed Route Through Wenatchee National Forest 5
Table 3: Proposed Route Administered by BLM in Washington 6
Table 4: Proposed Route in the Wallowa-Whitman National Forest 6
Table 5: Proposed Route Administered by BLM in Oregon 7
Table 6: Generalized Plant Associations in Land Administered by BLM 8

LIST OF FIGURES

Figure 1: Vicinity Map 4

BLM Library
Denver Federal Center
Bldg. 50, OC-521
P.O. Box 25047
Denver, CO 80225

1.0 INTRODUCTION

As part of the Environmental Policy Act (NEPA) process, proposed activities on federally managed lands that could affect sensitive species are to be reviewed through a biological evaluation. This document addresses potential project related impacts to the U.S. Forest Service (USFS) and U.S. Bureau of Land Management (BLM) sensitive plant species not listed under the ESA. This document is intended for review by the USFS and BLM. Species listed under the ESA are addressed in the biological assessment prepared for this project and intended for review by all appropriate federal agencies.

2.0 PROPOSED ACTION

The proposed WorldCom fiber optic cable project consists of the construction, operation, and maintenance of a buried fiber optic communication cable and associated facilities. These facilities include: 17 signal regeneration stations an average of every 45 to 50 miles; splice boxes an average of every 18,000 feet; and marker poles an average of every 1,000 feet. Where the cable is placed in a conduit, manhole access would be provided an average of every 10,000 feet. Three methods will be used to install the cable: direct bury by plowing, placement in an excavated trench, or directional bores. In most areas, the cable will be buried 3.5 feet deep. In agricultural areas it may be buried up to five feet deep. At buried stream crossings, the cable will be installed a minimum of five feet below the bottom of the channel in steel conduit.

The construction process includes: site preparation; site excavation, conduit and cable installation, backfill, grading, and restoration. Site preparation will include clearing of brush, removal of rocks, and in some areas may include cutting of pavement or rock. Site excavation will be done by a backhoe, trencher, or cable plow. The trench shall be excavated directly in advance of laying the cable. The trench will be backfilled immediately following cable placement. No blasting is proposed in any location along the route.
At perennial stream and river crossings the cable will be attached to bridges, when possible. Where it is not possible, the cable crossing will be made by directional boring under the stream to avoid impacts. All wetlands that can not be avoided will be directional bored, thus no impacts to wetlands in national forests will result from this project. There will be no side casting of materials in wetlands. A field biologist will be on site at all wetland and stream crossings during construction.

WorldCom requires a permanent 10-foot wide ROW and an additional 10-foot wide temporary construction ROW. On the average, only a 10-15-foot wide strip will be disturbed. However, at bore locations for road, railroad, and stream crossings the full 20 feet may be needed. The 10-foot construction ROW allows space for access and equipment staging.

Because the project follows existing ROW's, the areas that will be altered by construction primarily consist of previously disturbed areas. The existing cleared portions of the ROW's are typically 20 feet wide or more and will accommodate all necessary construction activities. No mature trees or native forest will be impacted during site preparation or cable installation.

Construction of the project is anticipated to begin in early September 1996 in the National Forest areas and be completed in November 1996. Several contractors will work simultaneously in the National Forests.

3.0 ACTION AREA

WorldCom Network Systems, Inc. (WorldCom) proposes to install a fiber optic cable from Seattle, Washington to Salt Lake City, Utah. The project will consist of approximately 830 miles of underground cable located primarily within public road and railroad right-of-ways (ROW) or existing utility corridors (Figure 1). Approximately 32 miles of the proposed route is within three national forest boundaries: Mt. Baker-Snoqualmie National Forest (MBSNF) and Wenatchee National Forest (WNF) in Washington State, and Wallowa-Whitman National Forest (WWNF) in Oregon. Approximately 15 miles of the route in the national forests occurs on land administered by the USFS. The proposed route crosses approximately 58 miles of BLM administered land in Washington, Oregon, and Idaho. The proposed route does not depart from established ROW at any point within the boundaries of all national forests and BLM administered land.

4.0 SENSITIVE SPECIES

Preliminary background data was obtained through written requests for data searches on locations of any known rare plant species from all agencies maintaining jurisdiction over lands within the project route. These included written responses, data, and maps from the following resource agencies:

- US Department of the Interior, Fish and Wildlife Service
- US Department of the Interior, Bureau of Land Management
- Washington Department of Natural Resources, Natural Heritage Program
- Oregon Natural Heritage Program
- Idaho Conservation Data Center
- Utah Natural Heritage Program

Mapped locations of plants identified through these searches were compared to proposed route maps to determine potential of encounter or impact to USFS or BLM sensitive species. Specific information within each state follows.

Washington

USFS Lands - Mount Baker-Snoqualmie National Forest

Land administered by the USFS within this portion of the route can be described using legal descriptions found in Table 1. Elevations in the MBSNF ranges from 1,800 feet in the western portion to about 2,600 feet just west of the Snoqualmie Tunnel. The dominant vegetation near the railroad grade throughout that portion of the route is mixed conifer-deciduous forest. Common tree and shrub species include: Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*), western red cedar (*Thuja plicata*), red alder (*Alnus rubra*), black

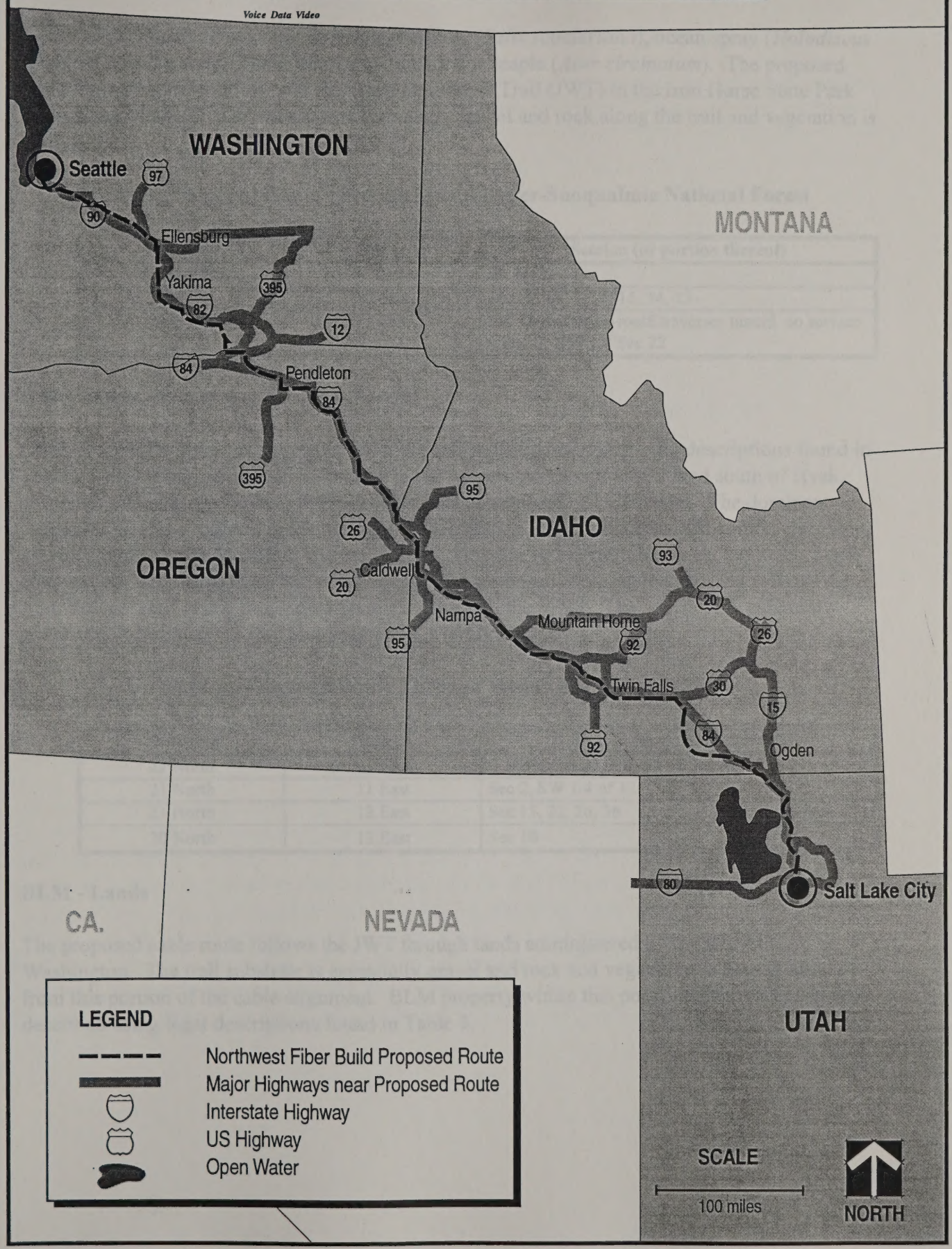
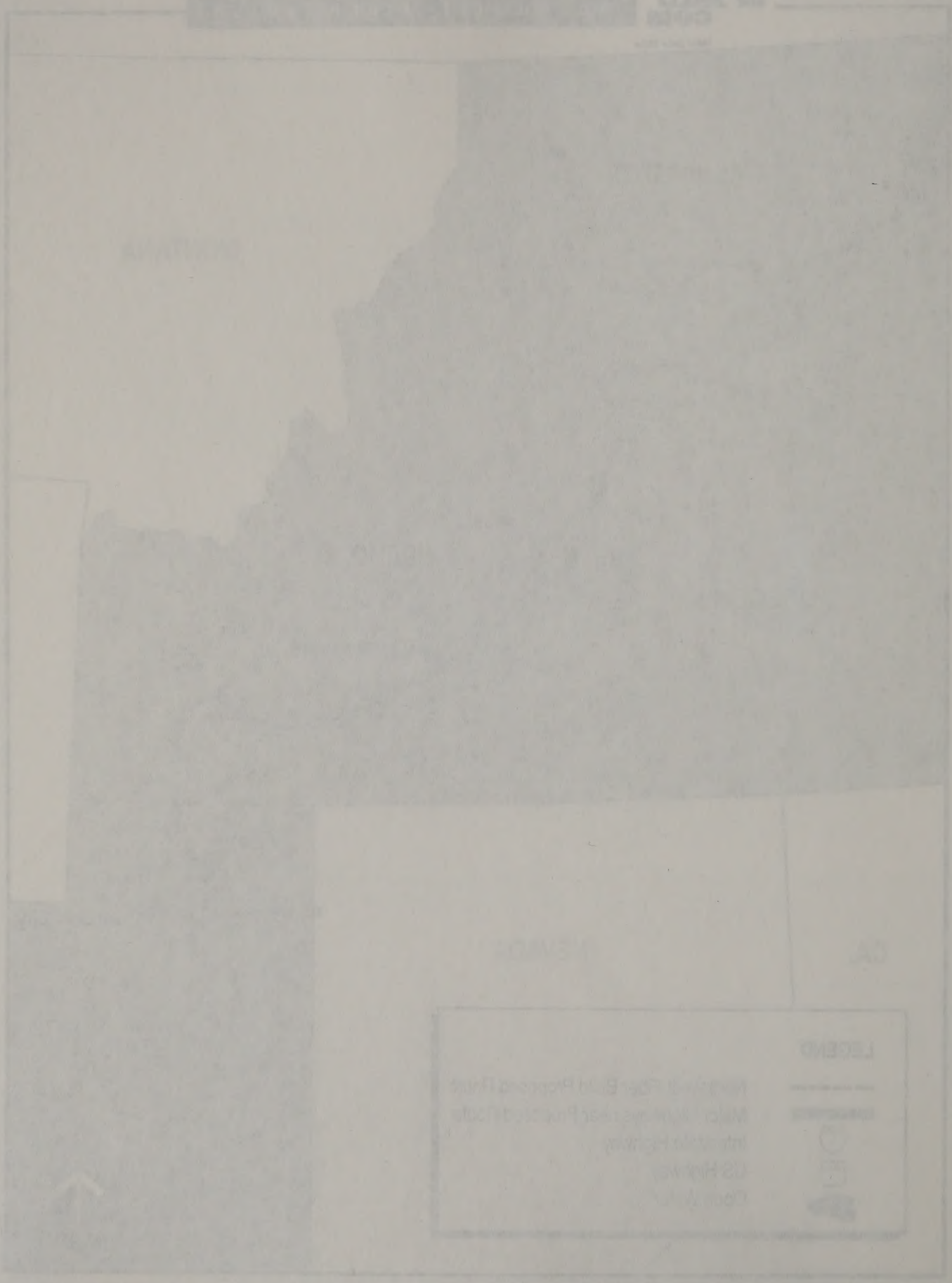


Figure 1-1: **Route Map**



cottonwood (*Populus balsamifera*), Scouler willow (*Salix scouleriana*), ocean spray (*Holodiscus discolor*), thimbleberry (*Rubus parviflorus*), and vine maple (*Acer circinatum*). The proposed cable route primarily follows the John Wayne Pioneer Trail (JWT) in the Iron Horse State Park through the MBSNF. The substrate is essentially gravel and rock along the trail and vegetation is largly absent.

Table 1: Proposed Route Through Mount Baker-Snoqualmie National Forest

Township	Range	Section (or portion thereof)
22 North	9 East	SE 1/4 Sec 1
22 North	10 East	Secs 6, 8, 17, 16, 15, 14, 13
22 North	11 East	Sec 16 (although route traverses tunnel, no surface impact); NW 1/4 Sec 22

USFS Lands - Wenatchee National Forest

USFS property within this portion of the route can be described using legal descriptions found in Table 2. Elevations are around 2,450 feet in the western portion of USFS land south of Hyak, dropping only slightly to about 2,400 feet near the eastern end of USFS land. The dominant vegetation near the railroad grade throughout that portion of the route is mixed conifer-deciduous forest. Common tree and shrub species include: Douglas fir, western hemlock, red alder, black cottonwood, Scouler willow, and ocean spray. The proposed cable route primarily follows the John Wayne Trail in the Iron Horse State Park through the WNF. The substrate is essentially gravel and rock along the trail and vegetation is largly absent.

Table 2: Proposed Route Through Wenatchee National Forest

Township	Range	Section (or portion thereof)
22 North	11 East	S 1/2 of Sec 22, NE 1/4 of Sec 34
21 North	11 East	Sec 2, SW 1/4 of 12
21 North	12 East	Sec 15, 22, 26, 36
20 North	13 East	Sec 10

BLM - Lands

The proposed cable route follows the JWT through lands administered by the BLM in Washington. The trail substrate is essentially gravel and rock and vegetation is largely absent from this portion of the cable alignment. BLM property within this portion of the route can be described using legal descriptions found in Table 3.

Table 3: Proposed Route Administered by BLM in Wasahington

Locale	Township	Range	Section (portions thereof)
Cle Elum to Ellensburg	19 North	17 East	Sec 20, (1380' along trail)

Oregon

USFS Lands - Wallowa-Whitman National Forest

Through Oregon, the fiber optic route is located primarily along railroad and natural gas pipeline easements. It also traverses or parallels county and private roads. USFS lands within the Baker District of the Wallowa-Whitman Forest (WWNF) occur in the legal descriptions given in Table†4.

Table 4: Proposed Route in the Wallowa-Whitman National Forest

Locale	Township	Range	Section (portions thereof)
Hilgard to Kamela	2 South	36 East	Secs. 8, 17, 16, 21, 22, 27, 26, 25, 36

Through WWNF, the route lies within the natural gas pipeline easement. Vegetation in these areas is dominated by ponderosa pine/mixed evergreen woodlands. Dominant species include: ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), snowberry (*Symphoricarpos alba*), kinnickinnick (*Arctostaphylos uva-ursi*), buttercup (*Ranunculus glaberrimus*), Oregon grape (*Mahonia repens*), yellow fawn lily (*Erythronium grandiflorum*), elk sedge (*Carex geyeri*), grass widow (*Sisyrhinchium douglasii*), and yarrow (*Achillea millefolium*). Sensitive plant lists for the Baker District were obtained from the forest botanist (Brooks, pers. comm. 1996).

BLM Lands - Vale District, Malheur Resource Area, Baker Area

In much of the land administered by the BLM in Oregon, the route traverses natural gas pipeline routes, though some areas under BLM jurisdiction are in the disturbed access roads of the railroad easement. Because native or mostly native vegetation does exist within project limits, the BLM botanist requested sensitive plant surveys for BLM lands in Oregon (Button, pers. comm. 1996). The list provided by the BLM (dated March 21, 1996) included 90 plant species (USDI - BLM 1996, Appendix A). The Baker Resource Area botanist, Mr. Claire Button, indicated that "*it is essential that the botanical contractors ... do a complete inventory of species encountered, and be able to document the locations of any rare species.*" (Button 1996). Legal descriptions of areas under BLM jurisdiction within the project route are presented in Table 5.

Table 5: Proposed Route Administered by BLM in Oregon

Locale	ID*	Township	Range	Section (or portion thereof)
Haines area	1	7 South	39 East	SE 1/4 of Sec 26
S of Baker	2	9 South	40 East	200' strip of Sec 34
Pleasant Valley	3	10 South	42 East	SE 1/4 of Sec 30
Oxman	4a	11 South	42 East	SE 1/4 of Sec 12
Oxman	4b	11 South	43 East	S 1/4 of Sec 7, Sec 18
Nelson	5a	12 South	43 East	portions of Secs, 11, 12, 13
Nelson	5b	12 South	44 East	Sec 18
W of Lime	6	13 South	44 East	S portion of Sec 15, Sec 21, 26
S of Lime	7	13 South	44 East	NW 1/4 of Sec
W of Huffman Island	8	15 South	45 East	NE 1/4 of Sec 16, Sec 17, 22
N of Moores Hollow	9	16 South	46 East	S1/2 of Sec 6, NE 1/4 of Sec 7
S of Jacobsen Gulch	10	16 South	46 East	SW 1/4 of Sec 27, N 1/2 of Sec 34

* correlate to descriptions in Table 6

Methods

All areas on the proposed route within BLM jurisdiction (Table 5) were traversed on foot in April and May 1996 to assess existing plant communities and to initiate identification of sensitive species likely to be encountered along the route. During this first survey, focus was on the early blooming species (*Allium* spp., *Astragalus* spp., *Eriogonum ochrocephalum calcareum, Hackelia cronquistii,* and *Haplopappus radiatus*). All plant species identifiable at this time in the season were identified using Hitchcock et al (1977) and other references (Appendix B). Future surveys may be necessary, if requested by agencies, to confirm if other later-blooming species are present within the project limits. Any species suspected of being sensitive species will be confirmed with BLM botanists. Should any populations of sensitive plant be confirmed, the population location will be mapped on 7.5 minute quadrangles. This data will be compared to the proposed impact area. Other data on the population(s) such as approximate numbers, density, phenology, condition, and other observed or potential impacts will be presented. Coordination with BLM staff, botanists, and project proponents will be undertaken to assess consequences of potential impacts. Mitigation scenarios will be recommended if impact is likely. Mitigation may include project re-route, or further population studies.

Results of Initial Survey (April/May 1996)

Plant associations of the areas listed in Table 5 are presented in Table 6.

Table 6: Generalized Plant Associations in Land Administered by BLM

ID*	Locale	Plant Associations	Dominant Plant Species*
1	Haines area	grazed sagebrush scrub	Artr, Agcr
2	S of Baker	disturbed sagebrush	Artr, Agcr
3	Pleasant Valley	slightly grazed sagebrush; pipeline easement	Artr, Agsp, Feid, Cyec, Chna
4a	Oxman	disturbed sagebrush in pipeline easement	Artr, Agsp, Feid, Cyec, Chna
4b	Oxman	disturbed sagebrush in pipeline easement	Artr, Agsp, Feid, Cyec, Chna
5a	Nelson	disturbed weedy species in RR access road	Chna, Veth, Brte, Onac, Ciar, Mesa, Lida, Rosa
5b	Nelson	disturbed weedy species in RR access road	Chna, Veth, Brte, Onac, Ciar, Mesa, Lida, Rosa
6	W of Lime	native, slightly disturbed sagebrush	Artr, Agsp, Feid, Cyec, Posa, Grna, Chna, Oxla, Erci, Basa, Phlo, Trdu, Onac, Agcr
7	S of Lime	Native, slightly more disturbed than #6	Artr, Agsp, Feid, Cyec, Posa, Grna, Chna, Oxla, Erci, Basa, Phlo, Trdu, Onac, Agcr
8	W of Huffman Island	highly grazed sagebrush	Artr, Cema, Pobu, Hean, Chna, Chte, Amsi, Phlo, Onac,
9	N of Moores Hollow	moderately grazed sagebrush	Artr, Agsp, Feid, Pobu, Cyec, Posa, Coll, Chte, Peac, Asar, Oxla, Liru, Chna, Erci, Basa, Phlo, Onac, Agcr
10	S of Jacobsen Gulch	grazed sagebrush, disturbed in pipeline easement	Artr, Basa, Pobu, Agcr, Erci, Ragl, Onac, Chna, Crep, Amsi, Oxla, Chvi

* Plant codes as follows:

Agcr = *Agropyron cristatum*
Amsi = *Amsinckia* sp.
Artr = *Artemisia tridentata*
Asar = *Astragalus arrectus* (?)
Basa = *Balsamorhiza sagittata*
Brte = *Bromus tectorum*
Cema = *Centaurea maculosa*
Chte = *Chorispora tenella*
Chna = *Chrysothamnus nauseous*
Chvi = *Chrysothamnus viscidiflorus*
Ciar = *Cirsium arvense*
Coll = *Collinsia* sp.
Crep = *Crepis* sp.
Cyec = *Cynosurus echinatus*
Erci = *Erodium cicutarium*
Feid = *Festuca idahoensis*
Grna = *Grindelia nana*
Hean = *Helianthus annus*
Lida = *Linaria dalmatica*
Liru = *Lithospermum ruderale*
Mesa = *Medicago sativa*
Onac = *Onopordium acanthium*
Oxla = *Oxytropis lagopus*
Peac = *Penstemon acuminatus*
Phlo = *Phlox* spp.
Pobu = *Poa bulbosa*
Posa = *Poa sandbergii*
Ragl = *Ranunculus glaberrimus*
Rosa = *Rosa* sp
Trdu = *Tragopogon dubium*
Veth = *Verbascum thapsus*

Disturbance to native plant associations was considerable in most land administered by the BLM. Descriptions of species areas follow:

Areas #1 and #2 (Haines and Baker areas)

Non-native plant species have colonized much of the terrain along the pipeline. Weedy species such as Canada thistle (*Cirsium arvense*), cheatgrass (*Bromus tectorum*), and bulbous bluegrass (*Poa bulbosa*) dominate the groundcover. Only a few native shrubs exist in this area, such as big sagebrush (*Artemisia tridentata*), rabbit brush (*Chrysothamnus nauseosus*), and scattered bitterbrush (*Purshia tridentata*). No early blooming BLM sensitive species were observed during the field survey.

Areas #3, and #4 (Pleasant Valley and Oxman areas)

Grazing is moderate to heavy in this disturbed sagebrush habitat. Non-native plant species have colonized much of the terrain along the pipeline. Big sagebrush, bluebunch wheatgrass (*Agropyron spicatum*), Idaho fesue (*Festuca idahoensis*), dogtail (*Cynosurus echinatus*), and rabbit brush are present. Weedy species as described above are also present. It is unlikely that any BLM sensitive plants would populate this area. No early blooming BLM sensitive species were observed during the field survey.

Area #5 (Nelson area)

In this area, the route is along the access road in the railroad easement. The railroad parallels Burnt River throughout this section. Non-native plant species have colonized much of the terrain along the gravel access road. Weedy species include mullein (*Verbascum thapsus*), cheatgrass, Scotch thistle (*Onopordium acanthium*), Canada thistle, alfalfa (*Medicago sativa*), toadflax (*Linaria dalmatica*), cheatgrass, and rose (*Rosa* sp.). Only a few native shrubs such as rabbit brush and sagebrush occupy this area. It is unlikely that any BLM sensitive plants would populate this area. No early blooming BLM sensitive species were observed during the field survey.

Areas #6 and #7 (Lime area)

In this area, the route is along the pipeline on the upper slope of the ridge above the Interstate. Most of the vegetation in this area appears relatively undisturbed though cattle use is apparent. Dominant species include sagebrush, rabbitbrush, bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass (*Poa sandbergii*), dogtail, gumweed (*Grindelia nana*), rabbit brush, rabbit-foot crazyweed (*Oxytropis lagopus*), balsamroot (*Balsamorhiza sagittata*), and long-leaved phlox (*Phlox longifolia*). Weedy species such as crane's-bill (*Erodium cicutarium*), mullein, salsify (*Tragopogon dubium*), cheatgrass, Scotch thistle, and crested wheatgrass are present in minor amounts. In this area, a plant with large-leaved basal rosette and a large composite head from last year was observed. The plant could not be identified with certainty at this time. However, known populations of Snake River goldenweed (*Haplopappus radiatus*), a former Category 1

Candidate species for federal listing (S1), exist within one mile downslope of this location, it is possible that the species observed is a young Snake River goldenweed. Surveys later in the season would verify the identification of the plant. Several other individuals were located along this portion of the route in lands under BLM jurisdiction. No early blooming BLM sensitive species were observed during the field survey. This area may need subsequent follow-up surveys, if requestd by agencies, to determine if Snake River goldenweed is indeed present. As the pipeline route is staked in the field, it will then be possible to determine if the population would be affected by the proposed project.

Area #8 (West of Huffman Island)

This area along the pipeline is highly disturbed from grazing. Few native plant species were observed during the April/May site visits. Dominant species included big sagebrush, knapweed (*Centaurea maculosa*), sunflower (*Helianthus annus*), bulbous bluegrass, rabbitbrush, fiddleneck (*Amsinckia* sp.), blue mustard (*Chorispora tenella*), phlox, and Scotch thistle. It is unlikely that any BLM sensitive plants would populate this area. No early blooming BLM sensitive species were observed during the field survey.

Area #9 (North of Moores Hollow)

The route is along the pipeline route on the slopes east of the Interstate. The easternmost pipeline is the site of the proposed cable route. Most of the vegetation in this area appears relatively undisturbed. Dominant species include sagebrush, rabbitbrush, bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass, rabbit brush, rabbit-foot crazyweed, balsamroot, long-leaved phlox, sand penstemon (*Penstemon acuminatus*), hangingpod milk-vetch (*Astragalus arrectus* [cf. *A. filipes*]), and puccoon (*Lithospermum ruderale*). Weedy species such as crane's-bill, cheatgrass, Scotch thistle, and crested wheatgrass are present in minor amounts.

In this area, several onion (*Allium*) species were observed. The species were identified and the identity confirmed by a BLM botanist (Finley, pers. comm. 1996). One was identified as Tolmie's onion (*Allium tolmiei*). This species has several subspecies, several of which are considered BLM sensitive. The other was a common species, tapertip onion (*Allium acuminatum*). No other early blooming BLM sensitive species were observed during the field survey. However, a BLM sensitive species, Cronquist's stickseed (*Hackelia cronquistii*) is known to occur in the vicinity of the pipeline. *Hackelia* was not observed during this initial field survey. Since this area is largely undisturbed, follow-up surveys to determine if other sensitive plant species are present may be prudent. As the pipeline route is staked in the field, it will then be possible to focus on the impact area.

Area #10 (South of Jacobsen Gulch)

The route is along the pipeline route on the slopes east of the Interstate. Some of the vegetation in this area appears relatively undisturbed, much of it is moderately grazed by cattle. Dominant species include sagebrush, balsamroot, rabbitbrush, bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass, rabbitbrush, green rabbitbrush, rabbit-foot crazyweed, long-leaved phlox, sand penstemon, fiddleneck, hangingpod milk-vetch, and puccoon. Weedy species such as crane's-bill, cheatgrass, Scotch thistle, and crested wheatgrass are present in minor amounts. No early blooming BLM sensitive species were observed during the field survey.

Coordination with BLM staff subsequent to review of this draft document may be prudent to identify any other concerns or issues regarding the potential presence or absence of BLM sensitive plant species. Additional field surveys may be required in specific months for specific plant species of concern.

Idaho

USFS Lands

No USFS land exists along the proposed route in Idaho.

BLM Lands

The proposed route traverses BLM land in the Burley, Shoshone, and Boise Districts. Through these districts, the route is mostly along railroad easements, and occasionally within county or private road easements. Native, undisturbed vegetation along the route is essentially absent.

The Burley District botanist verified that since the proposed route is along disturbed railroad easement access roads, there are no concerns that BLM sensitive plant species could be affected by the project (Tharp, pers. comm. 1996).

The Shoshone District botanist reported that one sensitive plant species, Snake River milkvetch (*Astragalus purshii* var *ophiogenes*) listed as S (Sensitive) by the Idaho Native Plant Society (INPS) does occur in the proximity of the proposed route in the King Hill area. However, because the route traverses disturbed railroad easement, it is unlikely that the sensitive species exists within the proposed project limits, and thus be affected by the project (Popovich, pers. comm. 1996).

The Boise District botanist reported that in the Mountain Home area between the towns of Payette and Hammet, intact sagebrush scrub does support some populations of slick-spot peppergrass (*Lepidium papilliferum*) which is listed as S^2 (Sensitive 2), a former Category 2 Candidate species for federal listing. However, since the vegetation existing along the route in

this area is disturbed and contains mostly non-native, weedy species, it is unlikely that the proposed project would affect any populations of slick-spot peppergrass.

A lichen, wovenspore lichen (*Texosporium sancti-jacobi*), which is also listed as S^2, is only known to exist in the Boise District between Simco Road and Boise. This species inhabits native vegetation dominated by blue bunch wheatgrass with significant cryptogam (non-vascular plants) cover (DeBolt, pers. comm. 1996). Such vegetation is not present along the proposed route. Thus it is unlikely that the proposed project will affect this species.

Utah

No USFS or BLM administered land exists along the proposed route in Utah.

5.0 IMPACT DETERMINATION

The fiber optic route is located along railroad, road, trail, and pipeline easements and would not affect any native vegetation in most areas. Therefore, USFS and BLM sensitive plant species are are not likely to be affected by the proposed project. However, in the few areas on BLM administered land where vegetation will be disturbed, there is a remote possibilty of impact to BLM sensitive plant species. A summary of the initial impact assessment for USFS and BLM sensitive plants by jurisdiction follows.

Washington

USFS lands - Mt. Baker-Snoqualmie National Forest

Through the Mount Baker-Snoqualmie National Forest, the fiber optic route does not directly affect any native vegetation; the route is proposed to be located 4 feet left (west to east) of centerline of the abandoned gravel railroad bed (JWT). Since the cable will be buried in the railroad grade, or hung on bridges, no vegetation, including USFS sensitive species, will be directly affected by the project.

USFS lands - Wenatchee National Forest

Through the Wenatchee National Forest, the fiber optic route does not directly affect any native vegetation; the route is proposed to be located 4 feet left (west to east) of centerline of the abandoned gravel railroad bed (John Wayne Trail). Since the cable will be buried in the railroad grade, or hung on bridges, no vegetation, including USFS sensitive species, will be directly affected by the project.

BLM lands

The fiber optic route does not directly affect any native vegetation through lands administered by the BLM in Washington. The route is proposed to be located 4 feet left (west to east) of

centerline of the abandoned gravel railroad bed (John Wayne Trail). Since the cable will be buried in the railroad grade, or hung on bridges, no vegetation, including BLM sensitive species, will be directly affected by the project

Oregon

USFS Wallowa-Whitman National Forest

Because the route is located primarily along railroad and natural gas pipeline easements through the WWNF where native vegetation is primarily absent, impacts to USFS sensitive species are unlikely.

BLM lands - Vale District, Malheur Resource Area, Baker Area

Because BLM sensitive plants could be present in some areas that will be disturbed for cable installation, sensitive plant species could be impacted. Future surveys may be necessary, if requested by agencies, to determine the presence/absence of BLM sensitive species within the proposed construction area and to accurately assess potential impacts.

Idaho

BLM lands - Burley, Shoshone, and Boise Districts

The route is mostly along railroad easements, and occasionally within county or private road easements through the Burley, Shoshone, and Boise BLM Districts. Native, undisturbed vegetation along the route is essentially absent.

The Burley District botanist verified that since the proposed route is along disturbed railroad easement access roads, there are no concerns that BLM sensitive plant species could be affected by the project (Tharp, pers. comm. 1996).

The Shoshone District botanist reported that the one sensitive plant species, Snake River milkvetch that occurs in the proximity of the proposed route in the King Hill area is not likely to be affected by the project because the route traverses disturbed railroad easement (Popovich, pers. comm. 1996).

The slick-spot peppergrass that occurs in the Boise District is not likely to be impacted by the proposed project because the vegetation existing along the route in this area is disturbed and contains mostly non-native, weedy species.

The wovenspore lichen also known to occur in the Boise District was determined to not be present along the proposed route because of unsuitable habitat. Thus it is unlikely that the proposed project will affect this species.

6.0 MITIGATION MEASURES

Should any sensitive plant populations be located during any required subsequent surveys, the project botanist will coordinate efforts to re-direct the route, correspond with the BLM or USFS botanists, and/or suggest alternatives to population disruption. Should there be unavoidable impacts to sensitive plant populations, efforts will be made with the BLM or USFS botanists to identify other populations in the immediate vicinity. This is to assist in ascertaining the continued viability of the local populations should elimination of any individuals be unavoidable. Mitigation may include relocation, collection, etc. to be determined with the assistance of the BLM or USFS botanists.

t:\telecom\ldds0002\bcf\!tedba.2

7.0 REFERENCES

Brooks, pers. comm. 1996. Personal communication with Paula Brooks, Botanist, Wallowa-Whitman National Forest. April 16, 1996.

Button. 1996. Memo from Clair Button, Baker Resource Area botanist to Steve Davidson, Realty Specialist (6840).

Button, pers. comm. 1996. Personal communication with BLM botanist, Baker Resource Area, Oregon. Many phone conversations, late winter and spring 1996.

Camp, pers. comm. 1996. Fax from Pam Camp, BLM botanist, Wenatchee Resource Area, Washington. March 15, 1996.

Conservation Data Center. 1996. Updated status lists for rare, threatened, and endangered plants and animals of Idaho. April 4, 1996. Document personally obtained from Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise, Idaho. 39 p.

Conservation Data Center. 1994. Rare, threatened, and endangered plants and animals of Idaho. Third Edition. Idaho Department of Fish and Game, Boise, Idaho. 39 p.

DeBolt, pers. comm. 1996. Personal communication with Ann DeBolt, BLM botanist, Boise District, Idaho. May 23, 1996.

Eastman, Donald C. 1990. Rare and Endangered Plants of Oregon. Beautiful America Publishing Company, Wilsonville, Oregon.

Finley, pers. comm. 1996. Personal communication with Jene Finley, BLM botanist, Vale District, Oregon. May 14, 1996.

Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1977. *Vascular Plants of the Pacific Northwest*. University of Washington Press. Seattle, Washington (five volumes).

Lillebridge, pers. comm. 1996. Personal communication with Terry Lillebridge, Forest Botanist, Wenatchee National Forest. May 28.1996.

Oregon Natural Heritage Program. 1995. Data Search Letter of Findings to DEA. December 27, 1995.

Popovich, pers. comm. 1996. Personal communication with Steve Popovich, BLM botanist, Shoshone District, Idaho. May 21, 1996.

Potash, pers. comm. 1996. Personal communication with Laura Potash, Forest Botanist, Mount Baker-Snoqualmie National Forest. May 28.1996.

Tharp, pers. comm. 1996. Personal communication with Jim Tharp, BLM botanist, Burley District, Idaho. May 10, 1996.

USDA Forest Service. 1988. United States Department of Agriculture, United States Forest Service. Sensitive Plant Field Guide. R-1, Northern Region.

USDA Forest Service. 1988. United States Department of Agriculture, United States Forest Service. Mount Baker-Snoqualmie National Forest Map, South Half.

USDA Forest Service. 1989. United States Department of Agriculture, United States Forest Service, Intermountain Region. Idaho and Wyoming Endangered and Sensitive Plant Field Guide.

USDI - BLM. 1996. Letter from Gloria Brown, Baker Resource Area (Acting) Manager to DEA, dated April 10, 1996.

USDI - FWS. 1996a. U.S. Department of the Interior, Fish and Wildlife Service. February 12, 1996 fax from Chandra Madrona, North Pacific Coast Ecoregion of FWS to David Evans and Associates, Inc. concerning Federally-listed threatened and endangered species in the King County portion of the project area.

USDI - FWS. 1996b. U.S. Department of the Interior, Fish and Wildlife Service. February 9, 1996 letter from Susan B. Martin, Acting Supervisor, Snake River Basin Office to David Evans and Associates, Inc. concerning Federally-listed threatened and endangered species in the project area.

Washington Natural Heritage Information System. 1995. Endangered, Threatened, and Sensitive Vascular Plants of Washington. Benton County. July 1995.

Washington Natural Heritage Information System. 1995. Endangered, Threatened, and Sensitive Vascular Plants of Washington. King County. July 1995.

Washington Natural Heritage Information System. 1995. Endangered, Threatened, and Sensitive Vascular Plants of Washington. Kittitas County. July 1995.

Washington Natural Heritage Information System. 1994. Endangered, Threatened, and Sensitive Vascular Plants of Washington. Pierce County.

Washington Natural Heritage Information System. 1995. Endangered, Threatened, and Sensitive Vascular Plants of Washington. Yakima County. July 1995.

Washington State Department of Natural Resources. 1996. Natural Heritage Information System Data Search for Seattle SE through Black Diamond, Cle Elum, Ellensburg, Yakima, Prosser, to Oregon. Letter from Sandy Norwood, Environmental Coordinator, Washington Natural Heritage Program, to DEA. February 2, 1996.

Washington State Department of Natural Resources. 1994. Endangered, Threatened, and Sensitive Vascular Plants of Washington. January 1994.

APPENDIX A

BLM LIST OF PLANT SPECIES OF SPECIAL CONCERN

Reported From Baker, Union, And Umatilla Counties,
and Selected Species From Malheur County Which Might Occur Between Ontario And Durkee

SCIENTIFIC NAME	COMMON NAME
ALLIUM BRANDEGEI	BRANDEGEE'S ONION
ALLIUM CAMPANULATUM	SIERRA ONION
ALLIUM GEYERI GEYERI	GEYER'S ONION
ALLIUM LEMMONII	LEMMON'S ONION
ALLIUM MACRUM	ROCK ONION
ALLIUM MADIDUM	SWAMP ONION
ALLIUM ROBINSONII	ROBINSON'S ONION
ALLIUM TOLMIEI PLATYPHYLLUM	FLAT-LEAVED TOLMIE'S ONION
ALOINA BIFRONS	MOSS
ARABIS DAVIDSONII	DAVIDSON'S ROCKCRESS
ARTEMISIA ARBUSCULA THERMOPOLA	CLEFT-LEAF SAGEBRUSH
ASCLEPIAS CRYPTOCERAS	PALLID MILKWEED
ASTRAGALUS ATRATUS OWYHEENSIS	OWYHEE MILK-VETCH
ASTRAGALUS COLLINUS LAURENTII	LAURENCE'S MILK-VETCH
ASTRAGALUS CUSICKII CUSICKII	CUSICK'S MILK-VETCH
ASTRAGALUS DIAPHANUS DIAPHANUS = A.	TRANSPARENT MILKVETCH
ASTRAGALUS KENTROPHYTA DOUGLASII	DOUGLAS' MILK-VETCH
ASTRAGALUS MULFORDIAE	MULFORD'S MILK-VETCH
ASTRAGALUS SALMONIS	TROUT CREEK MILKVETCH
ASTRAGALUS SUCCUMBENS	COLUMBIA MILKVETCH
BALSAMORHIZA ROSEA	ROSY BALSAMROOT
BOLANDRA OREGANA	OREGON BOLANDRA
BOTRYCHIUM CRENULATUM	CRENULATE MOONWORT
BOTRYCHIUM LANCEOLATUM	LANCE-LEAVED GRAPE-FERN
BOTRYCHIUM MINGANENSE	GRAY MOONWORT
BOTRYCHIUM PINNATUM	PINNATE GRAPE-FERN
BRYOERYTHROPHYLLUM COLUMBIANAUM	MOSS
BUPLEURUM AMERICANUM	BUPLEURUM
CAMISSONIA PYGMAEA	DWARF EVENING-PRIMROSE
CAREX CONCINNA	LOW NORTHERN SEDGE
CAREX ELEOCHARIS = C. DURIUSCULA	INVOLUTE-LEAVED SEDGE
CAREX PRAECEPTORUM	TEACHER'S SEDGE
CAREX RETRORSA	RETRORSE SEDGE
CAREX SAXATILIS MAJOR	RUSSET SEDGE
CASTILLEJA FRATERNA	FRATERNAL PAINTBRUSH
CASTILLEJA GLANDULIFERA	GRANDULAR PAINTBRUSH
CAULANTHUS PILOSUS	HAIRY WILD CABBAGE
CLEMATIS COLUMBIANA COLUMBIANA	ROCK CLEMATIS
CORYDALIS CASEANA CUSICKII	CASE'S CORYDALIS
CREPIS MODOCENSIS MODOCENSIS	LOW HAWKSWEED
CRYPTANTHA HUMILIS	LOW CRYPTANTHA
CRYPTANTHA PROPRIA	MALHEUR CRYPTANTHA
CRYPTANTHA SPICULIFERA	SNAKE RIVER CRYPTANTHA
CRYPTANTHA THOMPSONII	THOMPSON'S CRYPTANTHA
CRYPTOGRAMMA STELLERI	STELLER'S ROCK-BRAKE
CYPRIPEDIUM FASCICULATUM	CLUSTERED LADY'S-SLIPPER
CYPRIPEDIUM MONTANUM	MOUNTAIN LADY'S-SLIPPER
DRABA LEMMONII	WALLOWA DRABA
DRYOPTERIS FILIX-MAS	MALE FERN
ERIGERON DISPARIPILUS	WHITE CUSHION ERIGERON
ERIOGONUM OCHROCEPHALUM CALCAREUM	OCHRE-FLOWERED BUCKWHEAT
ERITRICHIUM NANUM ELONGATUM	PALE ALPINE FORGET-ME-NOT
FRASERA ALBICAULIS IDAHOENSIS	IDAHO FRASERA

SCIENTIFIC NAME	COMMON NAME
GEUM ROSSII TURBINATUM	SLENDER-STEMMED AVENS
HACKELIA CRONQUISTII	MALHEUR FORGET-ME-NOT
HAPLOPAPPUS RADIATUS	SNAKE RIVER GOLDENWEED
HEUCHERA GROSSULARIFOLIA GROSSULARIF	GOOSEBERRY-LEAVED ALUMROOT
HULSEA ALGIDA	ALPINE HULSEA
JUNCUS TORREYI	TORREY'S RUSH
LESQUERELLA KINGII DIVERSIFOLIA	KING'S BLADDERPOD
LIPOCARPHA ARISTULATA	ARISTULATE LIPOCARPHA
LIPOCARPHA OCCIDENTALIS	WESTERN LIPOCARPHUS
LOMATIUM CUSICKII	CUSICK'S LOMATIUM
LOMATIUM ERYTHROCARPUM	RED-FRUITED LOMATIUM
LOMATIUM PASTORALIS SP. NOV.	MEADOW LOMATIUM
LUPINUS BURKEI CAERULEOMONTANUS	BLUE MOUNTAIN LUPINE
LUPINUS CUSICKII	CUSICK'S LUPINE
LUPINUS SABINII = L. SABINIANUS	SABINE'S LUPINE
LYCOPODIUM ANNOTINUM	STIFF CLUB-MOSS
LYCOPODIUM COMPLANATUM	GROUND CEDAR
MIMULUS CLIVICOLA	BANK MONKEYFLOWER
MIMULUS JUNGERMANNIOIDES	HEPATIC MONKEYFLOWER
OROBANCHE PINORUM	PINE BROOMRAPE
PELLAEA BRIDGESII	BRIDGES' CLIFFBRAKE
PENSTEMON DEUSTUS VARIABILIS	VARIABLE HOT-ROCK PENSTEMON
PENSTEMON SEORSUS	SHORT LOBED PENSTEMON
PENSTEMON SPATULATUS	WALLOWA PENSTEMON
PHLOX MULTIFLORA	MANY-FLOWERED PHLOX
PLEUROPOGON OREGONUS = LOPHOCHLAENA	OREGON SEMAPHOREGRASS
POA SUKSDORFII	SUKSDORF'S BLUEGRASS
POLEMONIUM VISCOSUM	SKY PILOT
POLYSTICHUM KRUCKEBERGII	KRUCKEBERG'S HOLLY FERN
RANUNCULUS ORESTERUS	BLUE MTN. BUTTERCUP
RIBES CEREUM COLUBRINUM	WAX CURRANT
RIBES OXYACANTHOIDES IRRIGUM	INLAND BLACK GOOSEBERRY
RORIPPA COLUMBIAE	COLUMBIA CRESS
SALIX DRUMMONDIANA	DRUMMOND WILLOW
SELAGINELLA WATSONII	WATSON'S SELAGINELLA
SILENE SCAPOSA SCAPOSA	SCAPOSE CATCHFLY
THELYPODIUM HOWELLII SPECTABILIS	HOWELL'S SPECTACULAR THELYPODY

APPENDIX B

PLANT SPECIES ENCOUNTERED DURING INITIAL FIELD SURVEY

Appendix B

Scientific Name

Achilliea millefolium
Agoseris glauca
Agropyron cristatum
Agropyron spicatum
Agrostis sp
Allium acuminatum
Allium tolmiei
Amsinckia sp.
Antennaria rosea
Arenaria capillaris
Artemisia tridentata
Asclepias speciosa
Astragalus arrectus (cf *A. atratus inseptus)*
Balsamorhiza sagittata
Brodiaea douglasii
Bromus tectorum
Cardamine oligosperma
Cardaria draba
Castilleja applegatei
Centaurea maculosa
Cerastium viscosum (?)
Chaenactis douglasii
Chorispora tenella
Chrysothamnus nauseosus
Chrysothamnus viscidiflorus
Cirsium arvense
Clematis sp
Cleome platycarpa
Collinsia sparsiflora
Cryptantha glomerata
Cynosurus echinatus
Draba verna
Eleocharis sp.
Eriogonum sp
Eriophyllum lanatum
Erod ium cicutarium
Festuca idahoensis
Grindelia nana
Haplopappus radiatus (?)
Helianthus annus
Hydrophyllum capitatum
Lepidium perfoliatum
Lepidium virginicum
Linaria dalmatica
Lithospermum ruderale
Lomatium dissectum
Lomatium grayi
Lomatium triternatum
Medicago sativa
Mertensia longiflora
Microseris troximoides

Onopordium acanthium
Oxytropis lagopus
P. viscida (cf. *longifolia)*
Penstemon acuminatus
Phacelia hastata
Phacelia linearis
Phlox hoodii
Phlox longifolia
Phoenicaulis cheiranthoides
Poa bulbosa,
Purshia tridentata
Ranunculus glaberrimus
Ranunculus testiculatus
Rosa sp
Salix sp.
Salix exigua
Sidalcea/Malva (?)
Sitanion hystrix
Sonchus sp.
Tragopogon sp.
Verbascum thapsus

DAVID EVANS AND ASSOCIATES, INC.

Outstanding Professionals...
Outstanding Quality

